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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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03/29/2007

Frank Schmidt

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29176

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EXAMINER

VORTMAN, ANATOLY

ART UNIT

PAPER NUMBER

2835

MAIL DATE

DELIVERY MODE

08/09/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/596,829	Applicant(s) SCHMIDT ET AL.	
	Examiner ANATOLY VORTMAN	Art Unit 2835	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 July 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12 and 14-24 is/are pending in the application.
- 4a) Of the above claim(s) 23 and 24 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 12 and 14-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 June 2009 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination (RCE) under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application on 01/06/10 after final rejection of 08/06/09. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/06/09 has been entered.

Election/Restrictions

2. Applicant's election without traverse of Specie I, Fig. 2, claims 12 and 14-22 in the reply filed on 07/07/10 is acknowledged. Accordingly, the non-elected claims 23 and 24 have been withdrawn from further consideration on the merits.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

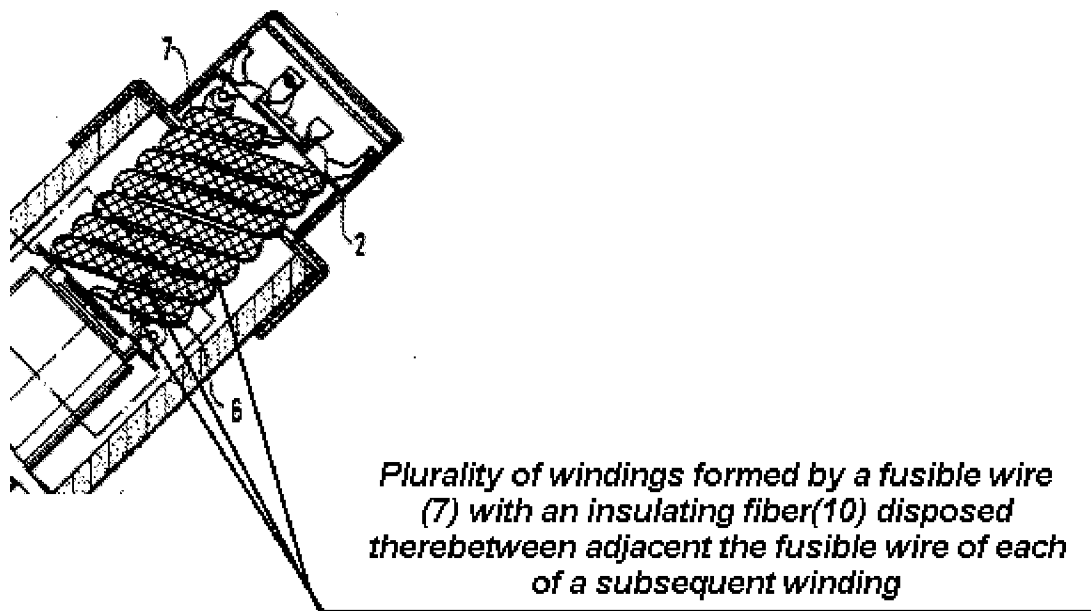
A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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4. Claim 12 is rejected under 35 U.S.C. 102(b) as being anticipated by US/4,523,172 to Drothen et al. (Drothen).

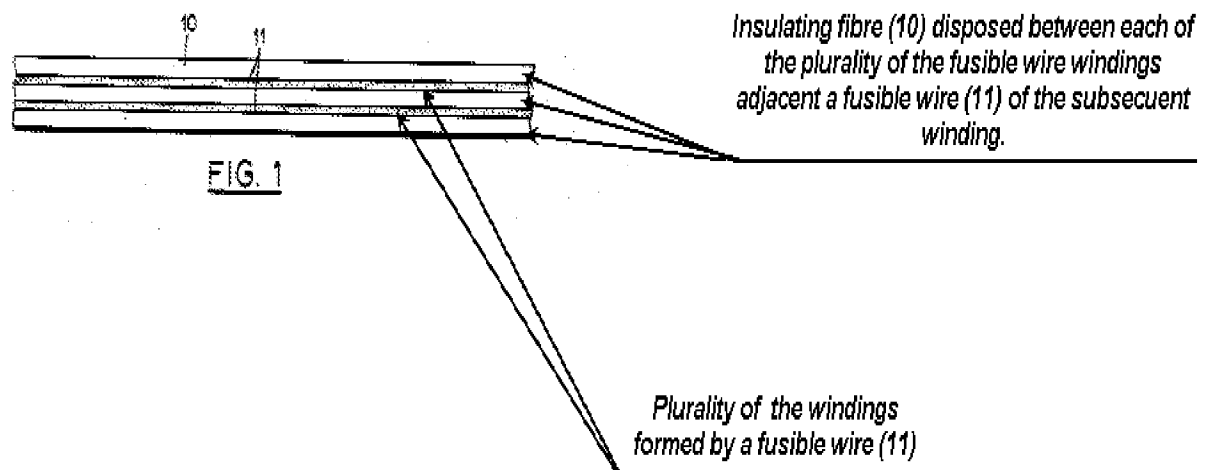
Regarding claim 12, Drothen disclosed (Fig. 2-3) a fusible conductor for a fuse element, said fusible conductor comprising: an electrically insulating core (6); a fusible wire (7) wound about the core (6) forming as a plurality of windings; and an electrically insulating fiber (10, 11) wound about the core and disposed between each of said plurality of fusible wire windings such that the insulating fiber is adjacent a fusible wire of a subsequent winding (see annotated figure below):



5. Alternatively, claim 12 is rejected under 35 U.S.C. 102(b) as being anticipated by US/ 3,486,155 to MCCAUGHNA.

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Regarding claim 12, MCCAUGHNA disclosed (Fig. 1, 2) a fusible conductor for a fuse element, said fusible conductor comprising: an electrically insulating core (12); a fusible wire (11) wound about the core (12) forming as a plurality of windings; and an electrically insulating fiber (10) wound about the core and disposed between each of said plurality of fusible wire windings such that the insulating fiber is adjacent a fusible wire of a subsequent winding (see annotated figure below):



Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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7. Claims 14-23, are rejected under 35 U.S.C. 103(a) as being unpatentable over US/4,523,172 to Drothen taken alone.

Regarding claims 14-16, Drothen disclosed all as applied to claim 13 above, and further, that both fusible wires and one insulating fiber have an approximately circular cross section (Fig. 3b), but did not specify the ranges for the ratio of the diameter of the fusible wire to that of the insulating fiber (i.e. between $1/3$ and 3, or between 1 and 3), and for the spacing between the turns of the fusible wire (i.e. 0.2 to 2 times the diameter of the fusible wire).

It would have been obvious to a person of the ordinary skill in the fuse art at the time of the invention to select any appropriate ranges for the aforementioned ratio and for the spacing, including as claimed, or any suitable value within said claimed ranges, in order to achieve the desired mechanical and electrical properties of the fusible conductor, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233. Further, it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). All claimed elements and methods have been known in the prior art at the time of the invention, and one skilled in the fuse art could have modified the elements as claimed by known methods with no change in their respective functions, and the modification would have yielded predictable results to one of ordinary skill in the art at the time of the invention. *See KSR International Co. v. Teleflex Inc.*, 550 U.S. ___, 82 USPQ2d 1385 (2007).

Regarding claim 17, Drothen disclosed that the spacing between the adjacent turns is smaller than the diameter of the fusible wire (Fig. 5).

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Regarding claim 18, Drothen disclosed that the outer surface of the wound fusible wire (7) projects beyond the outer surface of the insulating fiber (10, 11) (Fig. 5).

Regarding claim 19, Drothen disclosed that the core (6) has a circular cross section and the cross sectional dimensions of the insulating fiber (10, 11) are smaller than the diameter of the core (Fig. 3b, 4, and 5).

Regarding claims 20-22, Drothen disclosed all as applied to claim 12, but the specific materials the insulating fiber and the core are made of (i.e. glass or ceramic fibers).

The glass and ceramic fibers have been well known in the fuse art at the time of the invention as good insulating materials. Therefore, it would have been obvious to a person of the ordinary skill in the fuse art at the time of the invention to select any appropriate well known insulating materials (including as claimed) to make said insulating fiber and core of the fuse of Drothen, in order to achieve the desired mechanical and electrical properties of the fusible conductor, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416. All claimed elements and methods have been known in the prior art at the time of the invention, and one skilled in the fuse art could have modified the elements as claimed by known methods with no change in their respective functions, and the modification would have yielded predictable results to one of ordinary skill in the art at the time of the invention. See *KSR*, supra.

Regarding claim 23, Drothen disclosed that said insulating fiber (11) is substantially flat (Fig. 3b). Alternatively, it would have been obvious to a person of the ordinary skill in the fuse art at the time of the invention to select any suitable shape for said insulating fiber in order to

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achieve desired mechanical / electrical characteristics of the fusible conductor, since the rational that a particular shape is a design choice may be found in legal precedent: *In re Dailey*, 357 F.2d669, 149 USPQ 47 (CCPA 1966).

Response to Arguments

8. The Applicant's arguments, while being considered, are not persuasive. Claims as amended still read on the references applied against them, as shown in the rejection above. Furthermore, Applicant has stated: "Applicant has amended claims 12 and 24 consistent with the Examiner's suggestions". Examiner would like to direct the Applicant's attention to the fact that Examiner did not make any suggestions on how to amend the claims. The Examiner's statements regarding to what the claims recite versus what they do not recite have been made just to demonstrate that claims are broader than argued and nothing more. As it was stated earlier claims still read on the references applied against them.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANATOLY VORTMAN whose telephone number is (571)272-2047. The examiner can normally be reached on Monday-Thursday, between 10:00 am and 8:30 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor,

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Mr. Jayprakash Gandhi can be reached on 571-272-3740. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Anatoly Vortman/
Primary Examiner, Art Unit 2835